R E P O R T R E S U M E S

ED 020 085 RE 001 243

SCHOOL ENTRANCE VARIABLES AND LATER ACHIEVEMENT AND PERSONALITY.

BY- BINKLEY, M. EDWARD

PUB DATE 26 APR 68

EDRS PRICE MF-$0.25 HC-$0.64 14P.

DESCRIPTORS- *ELEMENTARY SCHOOL STUDENTS, *READINESS, *ACADEMIC ACHIEVEMENT, *PERSONALITY DEVELOPMENT, AGE, SEX DIFFERENCES, RACIAL DIFFERENCES, STUDENT EVALUATION, PREREADING EXPERIENCE,

SCHOOL ENTRANCE VARIABLES AFFECT LATER STUDENT PERFORMANCE. THIS STATEMENT WAS STUDIED BY ANALYZING THE EFFECTS OF CHRONOLOGICAL AGE AND READINESS LEVEL AT SCHOOL ENTRANCE AND SEX AND RACIAL DIFFERENCE (WHITE AND NEGRO) ON THE FOURTH-GRADE ACHIEVEMENT AND PERSONALITY ADJUSTMENT OF 1,110 PUPILS OF 39 SCHOOLS LOCATED IN CULTURALLY DEPRIVED AREAS OF METROPOLITAN NASHVILLE, TENNESSEE. RESULTS OF TESTS ADMINISTERED IN GRADE 4 SHOWED THAT FIRST-GRADE READINESS WAS THE MOST IMPORTANT FACTOR AFFECTING LATER STUDENT ACHIEVEMENT. THIS SUGGESTS THAT A COMMUNITY-WIDE PRESCHOOL DEVELOPMENT TESTING PROGRAM TO RAISE THE READINESS LEVEL OF STUDENTS SHOULD BE CARRIED OUT. THIS PAPER WAS PRESENTED AT THE INTERNATIONAL READING ASSOCIATION CONFERENCE (BOSTON, APRIL 24-27, 1968). A MORE COMPLETE REPORT OF THIS RESEARCH WAS REPORTED IN A DISSERTATION (UNIVERSITY OF TENNESSEE, JUNE 1967) WHICH IS AVAILABLE FROM UNIVERSITY MICROFILMS. (BS)

ED020085

M. Edward Binkley, Ed.D., Director
Division of Educational Research
Metropolitan Nashville Public Schools
2601 Bransford Avenue
Nashville, Tennessee 37204

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

SCHOOL ENTRANCE VARIABLES AND LATER ACHIEVEMENT AND PERSONALITY

INTERNATIONAL READING ASSOCIATION
1968 Convention - Boston, Massachusetts

Research Reports: Cultural Factors
Chairman: Paul Berg, University of South Carolina
Time: Friday, April 26, 4:30 - 5:30 P.M.
Place: Room 2-A, War Memorial

RE 001 243

Educators are most aware of the fact that many children, especially culturally deprived children, make their initial entrance into the regular school setting ill equipped to set a pattern of successful performance (15, 6).

The placement of children in inappropriate grade levels is widespread. Overplacement problems occur when children are assigned to school programs which are too advanced for the developmental level of the children involved (15, 6). The misplacements of children within school programs are a result of a variety of situations. Among other things, criteria for school entrance differ among the various states. The vast majority of states,

however, use chronological age as the sole criterion for entrance to first grade. Many state laws and current admission practices are not consistent with the large backdrop of knowledge concerning individual differences (2, 1).

Statement of the Problem

The problem of this study involved the exploration of several open questions regarding school entrance variables of culturally deprived children. A general assumption regarding school entrance of middle class children has been that older school entrants have a definite advantage over younger entrants in later achievement and personality adjustment. An attempt was made in this study to test this popular assumption regarding the effects of chronological age at school entrance upon fourth grade achievement and personality adjustment. A second major aspect of the problem was an attempt to assess the relative importance of measured readiness level at the time of first grade entrance upon fourth grade achievement and personality adjustment of culturally deprived children. In studies of middle class children sex differences have been reported in which girls consistently rank higher than boys on objective measures of school achievement. This study has attempted to assess not only sex differences in achievement patterns, but in personality measures as well. The fourth and final factor of importance in this study was the differential findings of Negro and White culturally deprived children for measures of achievement and personality adjustment. Typical findings in the research literature reveal that Negroes are consistently below whites in both academic attainment and personality adjustment. This study has attempted to contribute additional objective data on these matters regarding culturally deprived school children.

The Importance of the Study

Few investigations which focus upon school entrance variables of

culturally deprived are found in the research literature. The vast bulk of research which considers achievement patterns of different age groupings within a given grade level has been done with middle and/or upper class children. One of the most comprehensive of these studies was authored by Devault and others in 1957 (10). In their study all schools selected were located in middle and/or upper class Anglo-American neighborhoods. In an objective attempt to set forth the limitations of their study, Devault, et al (10) state:

> It is believed that the conclusions that are drawn from the data collected are valid as applied to the problem in the setting described. If solutions to the same problem with other types of populations are to be found, involving different racial and ethnic groups, then additional investigations will be required.

The results of the studies reviewed also were contradictory. Inadequate sampling procedures may account for these contradictory findings.

Although several investigations related school entrance age to achievement, few studies were found which include personality variables. It is well recognized that personal and social adjustment are important factors in academic growth (9, 18). Definitive studies are needed to explore the relationships of school entrance variables to later personality adjustment as well as to academic achievement with particular focus on the culturally deprived child.

Procedures

The present research explored first grade entrance variables as they related to fourth grade achievement and personality adjustment of 1110 pupils from 39 schools which serve culturally deprived neighborhoods in Metropolitan Nashville, Tennessee. There were 672 Negro pupils and 438 white pupils in the study. School entrance variables (main effects) included: chronological age (CA), readiness level, sex, and race. All

subjects were born in the same calendar year (1956) and entered school in the fall of 1962. Fourth grade (1965-1966 school year) fall achievement test scores and spring personality test scores were analyzed by analysis of variance techniques. Achievement areas were measured by the Metropolitan Achievement Test and included three basic areas; reading, spelling, and arithmetic computation. Personality adjustment scores were measured by the California Test of Personality and included three adjustment areas; personal adjustment, social adjustment, and total adjustment.

Subjects were classified into four chronological age (CA) groups depending upon the month of birth. CA group I included January, February, and March births. CA group II included April, May, and June births. CA group III included July, August, and September births. CA group IV included October, November, and December births.

Pupils also were classified into three levels of readiness based upon Metropolitan Readiness Test scores obtained in the first month of school after pupils entered the first grade. The three levels of readiness were: above average, average, and below average. Sex and race were additional variables by which subjects were classified.

Employing the classification system described above, data from the six dependent measures (reading, spelling, arithmetic, personal adjustment, social adjustment, and total adjustment) were analyzed separately by using a 4 x 3 x 2 factorial design for the Negro and white samples, and 4 x 3 x 2 x 2 factorial design for the total sample.

Summary of Results

As opposed to several previous research studies relating school entrance variables to achievement and adjustment, CA in this study was not an extremely important factor. CA was a significant main effect in only

one of 18 analyses. First grade readiness level was highly significant as a source of variation in 14 out of the 18 analyses. Exceptions were the three social adjustment analyses and the total adjustment analysis of white pupils. For significant findings relative to sex difference girls consistently attained higher scores than boys. Significant sex differences were observed for five out of nine achievement analyses and five out of nine personality analyses. The major exceptions involved arithmetic and personal adjustment measures in which no significant sex differences were found. The usual race difference in achievement was found in which Negro pupils did not perform as well as white pupils. No race differences, however, were evidenced for personality measures. Repeating somewhat, the significant findings of this study are summarized next under the heading of Main Effects.

Main Effects

Chronological age. Table I indicates the only situation in which there was a significant difference among age groups. Reading scores of CA groups of Negro pupils were significantly different. Mean reading scores favored CA groups of these students in the following order: CA I, CA III, CA II, and CA IV. The oldest pupils scored significantly higher than the youngest pupils ($p < .05$). No significant differences among CA groups were found in 17 of 18 analyses.

Readiness Level. Differences among readiness levels were significant in 14 out of 18 analyses (Table I). A consistent pattern was found in which the following order, from highest to lowest was observed: above average, average, and below average. Significant differences were invariably at the .01 level of confidence. All analyses of variance of achievement scores were significant in showing differences among levels of readiness. Negro,

TABLE I

SUMMARY TABLE OF SIGNIFICANT MAIN EFFECTS FOR EACH ANALYSIS OF VARIANCE SHOWING LEVEL OF CONFIDENCE

	Sources of Variation									
	Chronological Age[a]			Readiness Level[b]			Sex[c]			Race[d]
Dependent Measures	Negro	White	Total	Negro	White	Total	Negro	White	Total	Total
Reading	.05	N.S.	N.S.	.01	.01	.01	N.S.	.05	.01	.01
Spelling	N.S.	N.S.	N.S.	.01	.01	.01	.05	.01	.01	.01
Arithmetic	N.S.	N.S.	N.S.	.01	.01	.01	N.S.	N.S.	N.S.	.01
Personal Adjustment	N.S.	N.S.	N.S.	.01	.01	.01	N.S.	N.S.	N.S.	N.S.
Social Adjustment	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	.01	.01	.01	N.S.
Total Adjustment	N.S.	N.S.	N.S.	.01	N.S.	.01	N.S.	.05	.05	N.S.

a Mean scores for the one significant finding favored CA groups in the following order: CA I, CA III, CA II, and CA IV.

b For significant findings, mean scores consistently favored readiness levels in the following order: Above Average, Average, and Below Average.

c For significant findings, without exception girls were favored in comparison with boys.

d For all significant findings, White pupils were favored in comparison with Negro pupils.

white, and total analyses of personal adjustment scores as they related to readiness were significant. No significant differences among readiness levels were observed for social adjustment. Negro and total analyses regarding total adjustment were significant.

Sex. Significant sex differences were observed in 10 of the 18 analyses (Table I). For significant findings girls scored higher than boys without exception. Results of significant sex differences were observed for the following: white and total reading analyses; all spelling analyses; all social adjustment analyses; and white and total, total adjustment analyses.

Race. Negro pupils did not perform as well as white pupils on measures of achievement (reading, spelling, and arithmetic). These differences were significant at the .01 level of confidence. No significant race differences were obtained for personality adjustment variables.

Discussion

Recent studies (19) of cultural deprivation related to educational practices are numerous. The findings of the present study affirm many of the current positions regarding educational implications for culturally deprived children. Within the discussion which follows, educational implications and suggestions for further research are interwoven.

Admission Policies

Most state laws which govern first grade school entrance rely solely on a chronological age criterion. In Tennessee, according to existing legislation, children entering the first grade must be six years of age on or before September 30.

The weak relationship in this study between first grade entrance age and subsequent achievement and adjustment lends support to providing more

flexible school entrance policies. If educators and legislators insist upon a strict age criterion for first grade entrance, however, educational provisions for individual differences should be given additional attention, especially for culturally disadvantaged children. Existing evidence does not support the use of CA alone in the determination of initial and later school success and adjustment.

The need for multiple criteria for first grade entrance, especially for culturally disadvantaged children, again was demonstrated in this study. In terms of the variables explored, initial school readiness was related most strongly to fourth grade achievement and adjustment. However, no combination of variables in this study could provide enough information for a decision regarding the school readiness of individual children. Therefore, no generalization should be made to individual youngsters who are at the threshold of school entrance. This argues for idiographic studies which take into account a multiplicity of variables, including the first grade entrance variables used in this study and other variables necessary for a careful child study.

Preschool Testing

The use of idiographic studies is the natural alternative to the application of nomothetic findings (which are often used inappropriately as they are applied in decisions regarding individual children). In this study fourth grade achievement and adjustment were differentiated most sharply by levels of first grade readiness as compared with other independent variables (CA, sex, and race). The main effect of readiness, being significantly ($p < .01$) related to later success in school, raises the possibility of an even more refined procedure whereby youngsters could be evaluated before first grade entrance. Evaluation results would provide

school personnel with necessary pupil data to insure the "proper match" of pupils and curriculum content (12). A community-wide pre-school developmental testing program would be useful. Such a program may be designed similarly after the model of Ilg and Ames' (15) developmental appraisal techniques in which children are administered individual readiness tests by trained examiners.

Aspects of Personality Adjustment

The results of all personality adjustment analyses revealed that chronological age was not a significant source of variation. An interpretation of this finding tends to minimize the age variable with respect to personality adjustment.

Every analysis of personal adjustment and two of three analyses of total adjustment revealed a linear trend in which above average readiness pupils had higher adjustment scores than average readiness pupils, and below average readiness pupils had the lowest adjustment ratings. This supports the idea that a good start in school, as determined by readiness tests, has value in predicting later personal and total adjustment as measured by the CTP. On the other hand readiness level was not a significant source of variation in the analysis of social adjustment. Speculations regarding this finding may result in testable hypotheses for future investigations.

Every analysis of social adjustment revealed that sex was a significant source of variation in which girls scored higher than boys ($p < .01$). Girls also excelled boys in 2 of 3 analyses of total adjustment ($p < .05$). No significant sex differences in personal adjustment were observed. Practical applications of these findings need further study.

The culturally and economically disadvantaged generally are char-

acterized by negative self-images. This statement found support in the present study in which the mean total adjustment score was a percentile rank of 30. This one finding was typical of conclusions reached by many authorities of disadvantaged groups (19). For example, Passow and Elliott (17) affirm that, "The scholastic performance of many disadvantaged children suffers from their lower self-esteem, lower sense of personal worth, and lower aspiration level." The reversibility of self-debasement is extremely complex. A global approach has been to combine the resources of school, family, and community. This preferred approach is preventive as well as remedial, since pre-school treatments are prescribed as well as corrective programs at higher age levels.

Personality adjustment analyses in this study showed no significant differences between Negro and white pupils. Special focus in the research literature has depicted Negro pupils with lower self-concepts with the attendant feelings of inferiority (4, 6, 17, 19). Additional research may be needed before adequate explanation can be made for the lack of any significant differences in personality measures between Negro and white pupils.

Compensatory Education

Children who scored low on first grade readiness tests also scored low on achievement and personality tests four years later. Several questions remain unanswered. Could this low attainment have been prevented? How? Had the level of readiness been raised would there have been proportionate dividends in achievement and personality adjustment? Recent advocates of preschool programs and other compensatory efforts which attempt to modify unfavorable environmental and experiential conditions are optimistic and suggest that the spiral of failure and personal devaluation can be reversed

appreciably (4, 11, 14, 16).

Barbe (5) discussed the question, "Can anything be done for the educationally retarded and disadvantaged?" In this question was implied the need for something extra, or remedial, in supplementing standard educational procedures. Various intervention treatments have established that relatively stable characteristics can be modified (7, 13). It has been well documented that culturally deprived children, because of inadequate preschool experiences, often are diagnosed as unready for standard school offerings. This, according to Havighurst and others (12),

> . . . leads either to the obvious prescription of compensatory instruction or to the prognosis of low expectations and aspirations. School-created compensatory experiences prior to the primary grades or remedial work after a child enters these grades are intended to bring pupils into the mainstream of school life; without one or the other, many are marked for low attainment and failure.

The fact that slightly over forty percent of the total population in this study had below average readiness scores upon entering first grade suggests a dire need for pre-school experiences designed to raise the level of readiness. This suggestion finds support from numerous authorities (6, 8, 11).

Differential programs for boys and girls need further study. In this study the usual sex difference in achievement was found. The need for flexibility of educational offerings is implied where provisions are made for multiple levels of learning. These same statements regarding sex differences could apply to race differences in which white pupils consistently excelled Negro pupils on measures of achievement.

The problems regarding inappropriate grade placement of pupils need extensive study. Alternatives to the traditional system of promotion

retention should be explored. Fruitful areas of research involve the continuous need to adjust curricular offerings to pupil characteristics.

REFERENCES

American Educational Research Association. Review of Educational Research, 1964, 34, No. 5. Washington: Author, 1964.

Anastasi, Anne. Differential Psychology. (3rd ed.) New York: Macmillan, 1958.

Ausubel, David P. A teaching strategy for culturally deprived pupils: cognitive and motivational considerations, School Review, 1963, 71, 454-463.

Ausubel, D. P. & Ausubel, Pearl. Ego developments among segregated Negro children. In A. H. Passow (Ed.), Education in Depressed Areas. New York: Teachers College Press, 1963. Pp. 109-141.

Barbe, Walter B. Identification and diagnosis of the needs of the educationally retarded and disadvantaged. In Paul A. Witty (Ed.), The Educationally Retarded and Disadvantaged. Chicago: National Society for the Study of Education, 1967. Pp. 97-120.

Bloom, Benjamin S., Davis, Allison, & Hess, Robert. Compensatory Education for Cultural Deprivation. New York: Holt, Rinehart and Winston, 1965.

Bloom, Benjamin S. Stability and Change in Human Characteristics. New York: John Wiley and Sons, 1964.

Brunner, Catherine. Preschool experience for the disadvantaged. In Paul A. Witty (Ed.), The Educationally Retarded and Disadvantaged. Chicago: National Society for the Study of Education, 1967. Pp. 144-167.

Davis, Allison. Social Class Influences Upon Learning. Cambridge, Massachusetts: Harvard University Press, 1948.

Devault, M. V., Ellis, E. C., Vodicka, E. M., and Otto, H. J. Underage First Grade Enrollees. Austin: The University of Texas, 1957.

Gray, Susan W., Klaus, Ruppert A., Miller, James O., and Forrester, Bettye J. Before First Grade. New York: Teachers College Press, Columbia University, 1966.

Havighurst, Robert J., Passow, A. Harry, Moorefield, Thomas E., and Elliott, David L. The nature and needs of the disadvantaged. In Paul A. Witty, (Ed.), The Educationally Retarded and Disadvantaged. Chicago: National Society for the Study of Education, 1967, Pp. 8-39.

Hunt, J. McVicker. Intelligence and Experience. New York: Ronald Press, 1961.

Hunt, J. McVicker. The psychological basis for using pre-school enrichment as an antidote for cultural deprivation, Merrill-Palmer Quarterly. 1964, 10, 209-248.

Ilg, Frances L. and Ames, Louise Bates. School Readiness. New York: Harper and Row, 1965.

Kirk, Samuel A. Early Education of the Mentally Retarded. Urbana: University of Illinois Press, 1958.

Passow, A. Harry and Elliott, David L. The disadvantaged in depressed areas. In Paul A. Witty (Ed.), The Educationally Retarded and Disadvantaged. Chicago: National Society for the Study of Education, 1967. Pp. 20-39.

Passow, A. Harry (Ed.) Education in Depressed Areas. New York: Teachers College Press, 1963.

Witty, Paul A. (Ed.) The Educationally Retarded and Disadvantaged. Chicago: National Society for the Study of Education, 1967.